IMIMPROVEMENTS TO ROADS AND DRAINS AT MAHALAKSHMI NAGAR IN WARD NO. 14, BAGALAGUNTE, DASARAHALLI-SUB-DIVISION,
SL. NO. 06, G.O. NO. 88, (PACKAGE NO. - DHZ 01)

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
1	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (PW,P& IWTD SR 2018-19, Pg No 139 Item No.18.20)										
	Dismantling of Drain										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	1.80	0.10	37.62		
	5th main road	0.00	236.00	Cum	2	236.00	1.80	0.10	84.96		
	6th main road (LHS)	0.00	190.00	Cum	1	190.00	1.80	0.10	34.20		
	Total				***Breadth Taken in Perimeter**				**156.78**	**413.40**	**64,812.85**
2	Removing B.S. slab of Drain and stacking (PW,P& IWTD SR 2018-19, Pg No 27 Item No.5.32)										
	6th main road (RHS)	0.00	150.00	Sqm	1	150.00	1.35		202.50		
					***Breadth Taken in Perimeter**						
	For Drain Cover BS Slabs										
	6th main road (RHS)	0.00	150.00	Sqm	1	150.00	0.90		135.00		
									337.50		
	Considering 50%								**168.75**	**104.94**	**17,708.63**
3	KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1. 00 km and complete as per specifications. MORTH Specification No.301 (PW,P & IWTD SR 2018-19, Item No.19.14, Page No.143)										
	Excavation/Desilting For Dain										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	0.90	0.45	84.65		
	5th main road	0.00	236.00	Cum	2	236.00	0.90	0.45	191.16		
	6th main road (LHS)	0.00	190.00	Cum	1	190.00	0.90	0.45	76.95		
	6th main road (RHS)	0.00	150.00	Cum	1	150.00	0.90	0.45	60.75		
	6th main road (RHS)	150.00	190.00	Cum	1	40.00	0.90	0.90	32.40		
	Total								**445.91**	**43.46**	**19,379.03**
4	KSRRB 300-1. Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specifications. MORTH I Chapter 3(PW,P& IWTD SR 2018-19, Pg No 143 Item No. 19.1)										
	Earthwork for Kerb										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	0.20	0.10	4.18		
	5th main road	0.00	236.00	Cum	2	236.00	0.20	0.10	9.44		
	6th main road	0.00	190.00	Cum	2	190.00	0.20	0.10	7.60		
	For New Drain Portion			Cum	7	0.31		1.80	3.93		
	Total								**25.15**	**137.80**	**3,465.43**
5	KSRB 4-1.7: Providing and laying in position plain cement concrete of Mix 1:3:6 with OPC @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.69 cum and fine aggregtes @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 ems. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2 (PW,P& IWTD SR 2018-19 P-13, I-4.7)										
	M10 Concrete - PCC For drain										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	0.90	0.15	28.22		
	5th main road	0.00	236.00	Cum	2	236.00	0.90	0.15	63.72		
	6th main road	0.00	190.00	Cum	2	190.00	0.90	0.15	51.30		
	M10 Concrete - PCC For Kerb										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	0.20	0.10	4.18		
	5th main road	0.00	236.00	Cum	2	236.00	0.20	0.10	9.44		
	6th main road	0.00	190.00	Cum	2	190.00	0.20	0.10	7.60		
	Total								**164.46**	**5714.97**	**9,39,854.85**

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
6	KSRRB M2200-5.12. Providing and laying Design mix M25 with OPC cement @ 340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7 cum and fine aggregates @ 0.47 cum, with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008. i) Upto 5 m height. (PW,P& IWTD SR 2018-19 P-227, I-28.7.12)										
	M25 Concrete - For drain Raft										
	4th main road (LHS)	0.00	209.00	Cum	1	209.00	0.90	0.15	28.22		
	5th main road	0.00	236.00	Cum	2	236.00	0.90	0.15	63.72		
	6th main road	0.00	190.00	Cum	2	190.00	0.90	0.15	51.30		
	M25 Concrete - For drain Wall										
	4th main road (LHS)	0.00	209.00	Cum	2	209.00	0.60	0.15	37.62		
	5th main road	0.00	236.00	Cum	4	236.00	0.60	0.15	84.96		
	6th main road	0.00	190.00	Cum	4	190.00	0.60	0.15	68.40		
	Total								**334.22**	**5775.37**	**19,30,216.61**
7	KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 -do- TMT Bars Fe 500(PW,P& IWTD SR 2018-19, Pg No 229 Item No.28.8.2)										
					Drain concrete quantity			334.22			
	Quantity at 60 kg/ Cum of M25 concrete for Drains			Tonne					**19.38**		
									19.38	**72,326.98**	**14,02,020.17**
8	KSRRB M2200-1 Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing foce. Complete as per drawing and Technical Specifications including cost of materials, labour, HOM complete as per specifications. MORTH Specification No.2706 & 2200(PW,P& IWTD SR 2018-19 P-229, I-28.10)										
	At 1.5m Center to Center Spacing										
	Drain										
	4th main road (LHS)	0.00	209.00	Rmt	139	0.15			20.90		
	5th main road	0.00	236.00	Rmt	315	0.15			47.20		
	6th main road	0.00	190.00	Rmt	127	0.15			19.00		
	Total								**87.10**	**155.82**	**13,571.92**
9	Removing and resetting of footpath slab (PW,P& IWTD SR 2018-19 P-270, I-37.56)										
	For Drain Cover Slabs										
	4th main road (LHS)	0.00	209.00	Sqm	1	209.00	0.90		188.10		
	5th main road	0.00	236.00	Sqm	2	236.00	0.90		424.80		
	6th main road (LHS)	0.00	190.00	Sqm	1	190.00	0.90		171.00		
	Total								**783.90**		
	Considering 60% to removing and resetting								470.34		
	Resetting slabs within Ward using ward labours										
	6th main road (RHS)	0.00	150.00	Sqm	1	150.00	1.35		202.50		
	For Drain Cover BS Slabs										
	6th main road (RHS)	0.00	150.00	Sqm	1	150.00	0.90		135.00		

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
									807.84	208.82	1,68,693.15
10	Providing and fixing Precast RCC cover slabs of 100 mm thick for drain in cement concrete 1:1.5:3 using graded granite jelly 20mm and down size with steel reinforcement and pointing for joints 1:3 cement mortor including form work, lift charges , curing and concrtee finished surface on both sides etc, and complete as per the directions of Enginner in charges. (Data Rate)										
	For Drain Cover Slabs										
	4th main road (LHS)	0.00	209.00	Sqm	1	209.00	0.90		188.10		
	5th main road	0.00	236.00	Sqm	2	236.00	0.90		424.80		
	6th main road (LHS)	0.00	190.00	Sqm	1	190.00	0.90		171.00		
	Total								**783.90**		
	Considering 40% to removing and resetting								**313.56**	**1615.00**	**5,06,399.40**
11	KSRB 15.2.2 : Providing ruled pointing 20 mm deep to stone slab pavements with cement mortar 1:3, 20mm deep, after raking joints nicely lining, including cost of materials, labour, curing complete as per specifications. MORTH / Chapter 3 (PW,P & IWTD SR 2018-19, Item No. 15.8, Page No.115)										
	Pointing for resetting slabs			Sqm					**807.84**	**49.06**	**39,631.05**
12	KSRRB M200-24. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials separately complete as per specifications.MORTH Specification No. 202 (PW,P & IWTD SR 2018-19, Item No. 18.47, Page No.140)										
	4th main road	0.00	209.00	Cum	1	209.00	4.30	0.10	89.87		
	Total								**89.87**	**952.94**	**85,640.72**
13	KSRRB 300-48. Scarifying kankar / gravel / metal crust by mechanical means upto 150mm thick, disposal of stuff including cost of all labour charges, HOM complete as per specifications. MORTH / Chapter 3 (PW,P & IWTD SR 2018-19, Item No. 19.54, Page No.146)										
	4th main road	0.00	209.00	Sqm	1	209.00	4.30		898.70		
	Total								**898.70**	**25.44**	**22,862.93**
14	KSRRB 300-58. Compaction of original ground by mechanical means including filling in depression occuring during rolling including cost of all labour, HOM complete as per specifications. MORTH I Chapter 3 (PW,P& IWTD SR 2018-19, Pg No 147 Item No.19.64)										
	4th main road	0.00	209.00	Sqm	1	209.00	4.30		898.70		
	Total								**898.70**	**6.36**	**5,715.73**
15	**CONCRETE PAVEMENT** **KSRRB M600- Cement Concrete Pavements** KSRRB M600-1.Providing and Constructing dry lean cement concrete mix CC 1:5:10 base with OPC 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @0.58cum over a prepared sub-base, coarse and fine aggregate conforming to IS: 383-2016,aggregate cement ratio not to exceed 15:1, Aggregate gradation after blending to be as per Table 600-1 ,optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a hatching plant, transported to site,laid with a paver, compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. Clause 601of MORTH V Revision and IS 456 Table-5 -do- with OPC at 150 kg/cum and coarse aggregate 0.86cum, fine aggregate 0.58cum using Concrete Batch mix Plant at 75 cum/hr capacity with fixed form paver. (PW,P& IWTD SR 2018-19 P-174, I-22.1.2)										
	4th main road	0.00	209.00	Cum	1	209.00	4.30	0.10	89.87		
	Total								**89.87**	**3944.51**	**3,54,493.03**
16	KSRRB M400-17. Providing, laying, spreading and compacting Crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No.406. (PW,P& IWTD SR 2018-19, Pg No 155, Item No. 20.18)										
	4th main road	0.00	209.00	Cum	1	209.00	4.30	0.10	89.87		
	Total								**89.87**	**2001.28**	**1,79,855.03**

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
17	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to18:383-2016, with Superplastizer at 3 Its conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades,textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications. -do- with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum. (PW,P& IWTD SR 2018-19, Pg No 176 Item No. 22.6.1)										
	4th main road	0.00	209.00	Cum	1	209.00	4.30	0.16	89.87		
	Total							0.10	**89.87**	**5354.02**	**4,81,165.94**
18	KSRRB 500-2. Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and/or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications. Clause 501 of MORTH V revision (PW,P& IWTD SR 2018-19, Pg No 158, Item No. 21.2)										
	Cleaning Existing BT Surface										
	5th main road	0.00	236.00	Sqm	1	236.00	4.50		1062.00		
	6th main road	0.00	190.00	Sqm	1	193.00	5.10		984.30		
									2046.30	**5.30**	**10,845.39**
19	KSRRB 500-7. Providing and applying tack coat using 80/100 grade bitumen (VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications. Clause 503 of MORTH V revision (PW,P& IWTD SR 2018-19 P-158, I-21.7).										
	For Existing BT Surface										
	5th main road	0.00	236.00	Sqm	1	236.00	4.50		1062.00		
	6th main road	0.00	190.00	Sqm	1	193.00	5.10		984.30		
									2046.30	**12.72**	**26,028.94**
20	Providing and laying bituminous concrete 40mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications.Clause 507 of MORTH V revision as per IRC SP-53-2015. -do- using 40-60 TPH capacity HMP with mechanical paver grading II(30-45mm) with 5.4% of modified bituminous binder consisting of 4.97% of VG-30 bitumen (60/70 grade} and 0.43% of plastomeric thermoplastics (waste plastic) (PW,P & IWTD Bengaluru Circle SR 2018-19, Item No. 171 Page No.21.78.12)										
	Bituminous Concrete										
	5th main road	0.00	236.00	Cum	1	236.00	4.50	0.04	42.48		
	6th main road	0.00	190.00	Cum	1	193.00	5.10	0.04	39.37		
									81.85	**8699.42**	**7,12,064.93**
21	Providing and fixing pre cast solid cement concrete kerb stones made out of C.C. 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including form work, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc., complete. (PW,P& IWTD SR 2018-19, Pg No 27 Item No.5.30)										
	New Kerb										
	4th main road	0.00	209.00	Nos	1	209.00			465.00		
	5th main road	0.00	236.00	Nos	2	236.00			1050.00		
	6th main road	0.00	190.00	Nos	2	190.00			846.00		
	Total								**2361.00**	**435.84**	**10,29,010.00**

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
22	KSRRB M800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications,MORTH Chapter 8 (PW,P& IWTD SR 2018-19, Pg No 180, Item No. 24.1)										
	Kerb painting										
	4th main road	0.00	209.00	Sqm	1	209.00	0.35		73.15		
	5th main road	0.00	236.00	Sqm	2	236.00	0.35		165.2		
	6th main road	0.00	190.00	Sqm	2	190.00	0.35		133		
	Total								**371.35**	**84.80**	**31,490.48**
	Removal of Unservicable soil, Loading, unloading and Cost of Haulage										
23	KSRRB M300-19 Removal of unserviceable soil including excavation, loading and disposal but excluding replacement by suitable soil which shall be paid separately as per clause 300.5 complete as per specifications MORTH Specification No. 301. (PW,P& IWTD SR 2018-19, Pg No 144, Item No.19.20)										
	Vide Item No 3, 4.			Cum					471.05		
									471.05	**34.98**	**16,477.44**
24	KSRRB M-100-1 Loading and Unloading of Stone Boulder / Stone aggregate / Sand Kanker / Moorum.KSRRB M100-1 : Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip complete as per specifications.MORTH -100 / Chapter 1, (PW,P& IWTD SR 2018-19, Pg No 136, Item No.17.1)										
	Vide Item No 1 & 12.			Cum	1				246.65		
									246.65	**57.00**	**14,059.05**
25	KSRRB M100-4.1. Cost of haulage Excluding Loading and Unloading MORTH-100/Chapter 1 case-I surface road (PW,P& IWTD SR 2018-19, Pg No 136, Item No.17.4)										
	Vide Item No 23 & 24.			Cum					717.70		
									717.70	**69.12**	**49,607.65**
	Rain Water Harvesting										
26	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications.										
	For All Roads										
	a) 40mm Jelly.				7	0.31	0.40	0.87	1901.00	**1659.46**
						(3.142*0.63*0.63)/4					
	b) 20mm Jelly.			Cum	7	0.31	0.40	0.87	1901.00	**1659.46**
	c) Coarse sand.			Cum	7	0.31	0.30	0.65	2651.00	**1735.63**
	d) Fine Sand			Cum	7	0.31	0.20	0.44	2651.00	**1157.08**
	e) 12.5mm chips			Cum	7	0.31	0.30	0.65	1901.00	**1244.60**
27	Supplying, laying and jointing HDPE pipes of specified grade and conforming to IS 4984- 995 with latest amendments and conveyingto work site including loading and unloading at both destinations and rolling and lowering into trenches, laying true to line and jointing of pipes and specials, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excavation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bends, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. for : HDPE Grade PE80-PN6.0, 630 mm dia. (Perforated Pipe for Rain Water Harvesting Pit) (BWSSB SR 2017-18, Pg No 121 Item No. 1.17 Code No. K010Q)										
	For All Roads										
	Rain Water Harvesting pit										
	0.63m dia HDPE Perforated Pipe. For 1.8 Mtr depth,			Rmt	12.60				12.60		
									12.60	**10822.32**	**136361.25**

Sl. No.	Description of Work	Chainage from	Chainage to	Unit	No.	Length (m)	Breadth (m)	Depth (m)	Quantity	Rate in Rs.	Amount in Rs.
28	Providing of Geonets for Rain Water Harvesting pit on top of the filter media as specified in drawings or as approved by Engineer Incharge.										
	For All Roads										
	Rain Water Harvesting pit										
				Sqm	7	0.31			2.18		
									2.18	71.03	155.01
									Civil		82,69,042.84
	KRIDL Charges @ 1 % On Construction cost										82,690.43
	GST at 12% of Tender Amount										9,92,285.14
	Preparation of DPR 1.0%										82,690.43
	PMC Charges & Quality Control Charges at 1.0%										82,690.43
	Miscellaneous & unforeseen charges										3,90,600.73
									GRAND TOTAL		99,00,000.00

Technically Sanctione for Rs. 99,00,000.00
Rs In words Ninety Nine lakhs only
Under P-3727 SC-SP/TSP Mukyamantri gala Nava Bengalore Yojane/Nava Nagarothana
Job Code No. 014-20-000016
Registered as CE No. 64 / 19-20 Subject to conditions contained in Enclosed Memo
No. CE/D2/TS/64/19-20 Dt: 16/11/2019
AE/JE: TA 16/4/19 CE(D) 16/11/2019

CERTIFICATE:

i This work comes within BBMP limits
ii Certified that Personaly Inspected the Work Spot.
iii Certified that the estimate is prepared based on CSR of PWD Bangalore Circle 2018-19.
iv Estimate is prepared Making Use of essential item of work as per site Conditions in safest way of Execution in most economical way.
v This work is not included in any other program of work.

For Alcon Consulting Engineers (India) Pvt. Ltd.

Authorised Signatory

Alcon Consulting Engineers (I) Pvt. Ltd., Bengaluru

Assistant Engineer, Ward No-14 BBMP

Assistant Executive Engineer, Shettyhalli/Dasarahalli/PIA/Hegganahalli Division BBMP

Exceutive Engineer, Dasarahalli Division BBMP

14/4/2019

ADMINISTRATIVELY SANCTIONED FOR Rs 99.00
(Rupees Ninety Nine lakhs only
Under the Head of Account P-3727 SC-SP/TSP Mukyamantrigala Nava Bengalore Yojane Nava Nagarothana Yojane
Registered as no EE/D.D./AS 173/19-20 Subject to conditions contained in Enclosed Memo
No. EE/DD/AS/173/19-20 Dt: 16/11/2019
Exe. Eng
JE/AE. (DASARAHALLI) BBMP